

**Before the
Federal Communications Commission
Washington, D.C. 20554**

)	
In the Matter of)	
)	WT Docket No. 05-62
Amendment of Part 90 of the)	
Commission's Rules to Provide for)	
Flexible Use of the 896-901 MHz and)	
935-940 MHz Bands Allotted to the)	
Business and Industrial Land)	
Transportation Pool)	
)	DA 04-3013
Oppositions and Petitions for)	
Reconsideration of 900 MHz Band)	
Freeze Notice)	

To: The Federal Communications Commission

**COMMENTS OF PUBLIC SERVICE ELECTRIC AND GAS COMPANY,
PSEG POWER LLC, PSEG ENERGY RESOURCES & TRADE LLC AND
PSEG SERVICES CORPORATION**

Pursuant to Sections 1.415 and 1.419 of the Rules of the Federal Communications Commission ("FCC" or "Commission"), 47 C.F.R. §§1.415 and 1.419, Public Service Electric and Gas Company ("PSE&G"), PSEG Power LLC ("PSEG Power"), PSEG Energy Resources & Trade LLC ("PSEG ER&T") and PSEG Services Corporation ("PSEG Services," collectively, the "PSEG Companies") respectfully submit their comments regarding the Commission's Notice of Proposed Rulemaking ("NPRM") in the above-captioned proceeding,¹ which would permit additional commercial use of the 900

¹In the Matter of Amendment of Part 90 of the Commission's Rules to Provide for Flexible Use of the 896-901 MHz and 935-940 MHz Bands

megahertz (“MHz”) spectrum at the potential expense of incumbent licensees in this band. The PSEG Companies oppose the proposed rule, which could adversely affect their existing systems in the 900 MHz band and related operation of critical infrastructure.² In support hereof, the PSEG Companies respectfully state as follows:

I. INTRODUCTION AND BACKGROUND

The PSEG Companies each are wholly owned, direct or indirect subsidiaries of Public Service Enterprise Group Incorporated (“PSEG”). The principal and executive offices of PSEG are located at 80 Park Plaza, Newark, New Jersey 07102. As described further below, the PSEG Companies rely extensively upon 900 MHz radio systems to control and coordinate the delivery of electricity and natural gas to retail customers in New Jersey and to operate over 13,000 megawatts (“MW”) of electric generation capacity. Specifically, the PSEG Companies own and operate three major systems within the affected band: a ten-site, twenty-channel, trunked system; a single-site, five-channel trunked system that supports the three operating nuclear generation stations of PSEG Nuclear LLC, a subsidiary of PSEG Power; a six-channel conventional data system; and a series of single-site

Allotted to the Business and Industrial Land Transportation Pool, *Notice of Proposed Rulemaking*, WTB Docket No. 05-62, FCC 05-31; released February 16, 2005.

² The PSEG Companies also support the position of the United Telecom Council, which the PSEG Companies expect to file comments contemporaneously herewith.

multichannel repeaters that operate on the same channels as the data system in order to provide sufficient coverage within the applicable territory.³ Adverse impacts to these 900 MHz radio systems could immediately and substantially affect the operations of the PSEG Companies, which are described further below.

A. PSE&G

PSE&G is a public utility company organized under the laws of the State of New Jersey. PSE&G primarily engages in the transmission and distribution of electricity, and the distribution of natural gas, in New Jersey. PSE&G is subject to regulation by the New Jersey Board of Public Utilities (“BPU”) and the Federal Energy Regulatory Commission. New Jersey law and the rules of the BPU require public utilities in New Jersey, such as PSE&G, to provide safe, adequate and reliable electricity and natural gas service to their customers. Thus, PSE&G owes a duty to its customers in particular, and to the public in general, to maintain a safe, reliable and available electric power and natural gas delivery system.

PSE&G supplies electricity and natural gas service to hundreds of federal, state, multi-state, county and municipal government facilities. PSE&G serves federal government facilities including military bases, veterans hospitals, federal office buildings, federal agencies occupying leased

³ PSEG Services currently maintains the following call signs for its 900 MHz systems: WNZZ600, WPFW964, WPMR210, WPTT358, WPZQ459, WNIT313, WNIT315, WPNZ824.

office space, post offices, Federal Aviation Administration (“FAA”) control towers and the infrastructure and systems that support them. PSE&G serves state government facilities that include state agencies, state office buildings, the state university system, National Guard armories, bridges spanning navigable waterways, the New Jersey Turnpike, the Garden State Parkway, Interstate Highways 80, 78, 95, 195, 280, 295, 278, 287, more than two dozen state highways, and the infrastructure and systems that support them. PSE&G serves multi-state agency facilities including: (a) The Port Authority of New York and New Jersey, which operates Newark International Airport, the George Washington Bridge, the Goethals Bridge, the Outerbridge Crossing, the Bayonne Bridge, the Holland Tunnel, the Lincoln Tunnel and the Port Authority Trans-Hudson rail system; (b) The Delaware River Joint Toll Bridge Commission, which operates seven Delaware River bridges; and (c) The Delaware River Port Authority of Pennsylvania and New Jersey, which operates four Delaware River bridges and PATCO rapid transit systems, as well as the infrastructure and systems that support them. PSE&G also serves county and municipal government facilities including county hospitals, traffic control signals, offices, 20 county colleges, public schools, police departments, fire departments, first-aid/rescue squads, and the infrastructure and systems that support them. Furthermore, PSE&G supplies electricity and natural gas service to other critical infrastructure industries upon which the public depends: water utilities,

wireline and wireless telecommunications service providers, railroads operated by New Jersey Transit and AMTRAK, and the infrastructure and systems that support their operations.⁴ Without electric power and/or natural gas service, these federal, state, multi-state, county and municipal government facilities cease to function. In the event of an outage or interruption of service to these facilities, the effect upon public health, safety and welfare is immediate; its seriousness depends upon the duration and extent of the outage.

PSE&G cannot meet its obligation to the public and its customers unless its electric transmission system, its electric distribution system and its natural gas distribution system are safe, reliable and available, and PSE&G relies extensively upon 900 MHz private land mobile radio systems to ensure the safety, reliability and availability of its systems. Specifically, PSE&G

⁴ Indeed, the USA PATRIOT Act accords specific recognition to these critical infrastructure industries. *See* 42 U.S.C. § 5195c(b)(2) (“Private business, government, and the national security apparatus increasingly depend on an interdependent network of critical physical and information infrastructures, including telecommunications, energy, financial services, water, and transportation sectors”) and 42 U.S.C. § 5195(c) (“It is the policy of the United States . . . that any physical or virtual disruption of the critical infrastructures of the United States be rare, brief, geographically limited in effect, manageable, and minimally detrimental to the economy, human and government services, and national security of the United States . . .”). Also note that in the Commission’s Report and Order in WT Docket No. 99-87, 15 FCC Rcd 22709 at Para. 76 (2000), the Commission found with regard to electric utilities and other critical infrastructure industries that “the nature of their day-to-day operations provides little or no margin for error and in emergencies they can take on an almost quasi-public safety function. Any failure in their ability to communicate by radio could have severe consequences on the public welfare.”

relies upon its 900 MHz private land mobile radio system to: (1) control and to monitor outside plant using supervisory control and data acquisition systems (“SCADA”), (2) dispatch service personnel, (3) coordinate service restoration, (4) communicate between and among personnel engaged in hazardous live-line electric work and (5) respond to calls for assistance from public safety agencies to disconnect service at fire scenes, motor vehicle crashes, and contractor “dig-ins.” In addition to voice communications, PSE&G also uses the 900 MHz trunked radio system for telemetry, security and SCADA using MOSCAD (MOtorola SCADa), in which one or more “talk groups” are dedicated to specific operational information. For example, PSE&G uses this system to monitor or remotely control site security, FAA beacon status, waveguide pressure, building environment and other parameters. These 900 MHz radio systems also are critical to injury and incident response. Because emergencies can and do occur at any time, PSE&G relies upon the availability, reliability and exclusivity that its private wireless systems provide.

PSE&G has made significant investments to ensure the availability, reliability and exclusivity of its private wireless systems. Until 1997, when the Commission adopted its Report and Order in WT Docket 92-235 (“Spectrum Refarming”),⁵ PSE&G’s electric delivery department operated on

⁵ *Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them*, PR Docket No. 92-235, Report and Order, 10 FCC Rcd 10,076 (1995); Memorandum Opinion and Order, 11 FCC Rcd 17,676 (1996); Second Report and Order, 12 FCC Rcd

the company's ten-site, twenty-channel, simulcast 900 MHz trunked radio system. Circa 1990, that system was purchased by and designed for PSE&G's electric service area. Since that time, PSE&G has invested approximately \$30 million for buildings, base station equipment, mobile radios, in-vehicle repeaters, and other infrastructure related to its 900 MHz systems.

PSE&G also has made significant investments to maintain, upgrade and expand its 900 MHz systems. Prior to trunking, the electric distribution department had been using VHF low-band simplex radio systems that were subject to atmospheric "skip," while PSE&G's gas distribution department operated reliably on a number of VHF-high and UHF simplex channels. In the wake of Spectrum Refarming, however, and as a direct result of co-channel and adjacent-channel interference created by new, poorly coordinated private land mobile radio systems, PSE&G's gas distribution department became unable to communicate reliably with field crews. Therefore, beginning in 1999, the gas distribution department began to migrate to PSE&G's 900 MHz trunked system in those gas districts located within PSE&G's electric distribution territory, a migration that is still in progress today. In addition to PSE&G's investments in 900 MHz infrastructure described above, PSE&G has invested over \$14 million since 2003 related to technology upgrades for its system, necessary equipment

14,307 (1997); Second Memorandum Opinion and Order, 14 FCC Rcd 8642 (1999); Third Memorandum Opinion and Order, 14 FCC Rcd 10,922 (1999).

replacement, installation of single-site repeaters, and expansion of its 900 MHz system to accommodate its gas delivery department.

B. PSEG Power

PSEG Power is a multi-regional, wholesale energy supply company that integrates its generating asset operations with its wholesale energy, fuel supply, energy trading and marketing and risk management function through three principal direct wholly owned subsidiaries: PSEG Nuclear LLC, PSEG Fossil LLC and PSEG ER&T. Nuclear and Fossil own and operate generation and generation-related facilities. PSEG Power utilizes PSEG's 900 MHz systems in connection with its operation of over 13,000 MW of electric generation capacity.

C. PSEG ER&T

PSEG ER&T, a direct subsidiary of PSEG Power, is a special-purpose entity that sells power and energy and certain ancillary services at market-based rates. PSEG ER&T engages primarily in asset-based energy trading operations throughout the Northeast and Midwest. PSEG ER&T utilizes 900 MHz equipment to communicate with personnel at PSEG Power's electric generation stations, and to coordinate the dispatch of these facilities.

D. PSEG Services

PSEG Services provides management and administrative services to PSEG and its subsidiaries. These services include accounting, legal, human resources, information technology, treasury and financial services, investor

relations, stockholder services, real estate, environmental, health and safety, insurance, risk management, tax, library and information services, security, corporate secretarial and certain planning, budgeting and forecasting services, and communications services. In connection with these communications services, PSEG Services owns certain private wireless radio infrastructure, and is a Commission licensee. The information technology department within PSEG Services also uses the 900 MHz trunked radio system for field service, operations, and to coordinate work associated with PSEG's Wide Area Network and Local Area Networks.

II. COMMENTS OF THE PSEG COMPANIES

A. The Proposed Rule Would Preclude Normal System Growth.

The PSEG Companies oppose the proposed rule insofar as it precludes normal system growth. While any rule that the Commission ultimately adopts should grandfather existing licensees, as described further below, the proposed rule would unduly limit necessary, socially beneficial expansion of these existing 900 MHz systems. Section 90.680 of the proposed rule states in pertinent part as follows:

An incumbent licensee's service area shall be defined by its originally licensed 40 dBu field strength contour. Incumbent licensees are permitted to add new or modify transmit sites in this existing service area so long as the original 40 dBu field strength contour is not expanded.⁶

⁶ See 47 C.F.R. § 90.680 (proposed).

Under the proposed rule, therefore, new transmit sites are only permitted within the footprint of the existing 40 dBu contour. Moreover, auctioning the remaining “white space” in the 900 MHz band, as proposed, will preclude any opportunity to expand the capacity of an existing 900 MHz system.⁷

For critical infrastructure licensees such as public utilities, the proposed rule would thus foreclose normal growth of a licensee’s service territory. For example, when new development occurs in an area near the border of the territory served by two or more utilities, the BPU may order a realignment of the border if one neighboring utility is better equipped than the other to provide electric or gas service. If the PSEG Companies cannot extend their radio system to cover operations in such a new territory, the Commission’s rules would compromise reliability and employee safety. Furthermore, should an incumbent licensee acquire a neighboring entity that does not presently have a system in the band, the incumbent would not be able to integrate the acquired entity into its radio system, requiring maintenance of two incompatible systems and—worse—creating communication problems in emergencies when company crews are moved to trouble spots.

As described above, PSE&G’s gas distribution operations are in the midst of migrating their radio dispatch operations to the 900 MHz band.

⁷ Electric utilities are exempt from competitive bidding for spectrum under the *Balanced Budget Act of 1997*, Pub. L. No. 105-33, Title III, 111 Stat. 251 (1997), and the Commission’s findings in WT Docket 99-87, *supra*.

This migration vividly illustrates that such projects undertaken by large, critical-infrastructure industries are long-term and require long lead-times and several annual budget cycles. PSE&G committed to this migration, which the Commission encouraged because of the narrower bandwidth and greater spectrum efficiency of 900 MHz channels, in reliance upon a stable regulatory and licensing environment. Now the Commission has proposed to change its rules in mid-stream, which may effectively strand PSE&G's investment in 900 MHz communications technology. The PSEG Companies respectfully request the Commission not to adopt the changes it proposed in the NPRM, lest it render obsolete existing investments in 900 MHz equipment or impose unwarranted additional burdens upon critical infrastructure licensees.

B. The Proposed Rule Should at a Minimum Allow Incumbent Licensees to Continue their 900 MHz Operations Unimpaired.

While the PSEG Companies oppose the NPRM, the PSEG Companies submit that if the Commission were to proceed with any final rules to expand commercial usage of the 900 MHz spectrum, these rules must permit incumbent site-based licensees to remain in the 900 MHz band and continue their existing operations. As shown above, many 900 MHz users, such as the PSEG Companies, have deployed extensive 900 MHz systems. Many 900 MHz users, such as PSE&G's gas delivery department, have formulated their budgets to construct such systems years in advance, and in many cases are still in the process of implementing such systems. Maintaining the existing

licensing environment will provide the predictability necessary for the continued development of such systems, especially where such development is currently in progress. Furthermore, many such 900 MHz incumbents are critical infrastructure licensees such as the PSEG Companies, and require these systems to serve the public—little different from public safety licensees. Allowing incumbent licensees to continue their existing 900 MHz operations also promotes inter-operability between public utilities. Such inter-operability would facilitate joint efforts at electric and gas system restoration during emergencies such as storms or regional blackouts, and thus would serve the public interest. Any attempt to narrow existing operations in the 900 MHz spectrum would impose an undue burden upon critical infrastructure licensees to the detriment of the public interest. While the PSEG Companies oppose the NPRM, any such rule to permit additional commercial use of the 900 MHz spectrum should, as proposed in the NPRM, allow incumbent licensees to continue their existing operations in this band.

C. The Proposed Rules Fail to Provide Adequate Protection to Incumbent, Site-Based Licensees against Harmful Interference from Geographic-Area-Based Licensees.

The underlying premise of the Commission's proposed rules is that incumbent, site-based licensees would be allowed to continue their operations without interference from new geographic-area-based licensees. The actual, proposed rules, however, are not nearly adequate to accomplish this purpose. If the Commission adopts a final rule in this proceeding, the PSEG

Companies urge the Commission to add the following protections for incumbent licensees.

1. **§ 90.671 Field strength limits.**

One notable shortcoming in proposed rule § 90.671, *Field strength limits*, is that it protects only co-channel, bordering, geographic-area-based licensees by specifying a maximum field strength of 40 dBuV/m at the boundary of the geographic-area-based licensee's service area. The rule does not similarly protect incumbent, site-based licensees. With respect to incumbent, site-based licensees, the proposed rule states, "in the event that this standard conflicts with the geographic-area-based licensee's obligation to provide co-channel protection to incumbent licensees under § 90.621(b), the requirements of § 90.621(b) shall prevail."⁸ Under § 90.621(b), no maximum field strength is stated. Instead, the rule states that protection will be based solely on the basis of fixed distance separation, which in most cases will be 173 kilometers (107 miles).

This attempt to state a protection requirement for incumbent, site-based licensees from geographic-area-based licenses by attempting to reconcile two different protection techniques, namely, maximum field strength limit versus fixed distance separation, seems doomed to create more controversies than it will avoid. The PSEG Companies interpret the proposed rule to say that the fixed distance separation standard prevails over

⁸ 47 C.F.R. § 90.71 (proposed).

the maximum field strength standard. On this basis, the PSEG Companies question why it would not be more appropriate to state simply that no geographic-area-based licensee's base station can be closer than 173 kilometers (107 miles) to an incumbent licensee's co-channel or adjacent-channel, site-based station.

Additionally, under the proposed rule, the prevalence of the fixed distance separation standard over the maximum field strength standard occurs only when the maximum field strength *standard* conflicts with the geographic-area-based licensee's *obligation*. The proposed rule is not clear as to whether such a conflict must be an actual conflict, such as actual instances of harmful interference, or a predicted conflict, based on an engineering evaluation of the geographic-area-based licensee's proposed station in relation to an incumbent, site-based licensee's existing station. Given the requirement of the rule for geographic-area-based licensees to coordinate their frequency usage with geographically adjacent co-channel geographic-area-based licensees *and all other affected parties*, the PSEG Companies believe that an engineering evaluation and potential interference analysis is required prior to construction of the station by the geographic-area-based licensee. In the event the Commission adopts the proposed rule, the PSEG Companies urge the Commission to clarify that this is indeed the case and to add a requirement for prior notice to the incumbent, site-based licensee

whenever such construction is contemplated. Otherwise disputes are sure to arise regarding *standards* versus *obligations*.

Finally, the PSEG Companies are concerned that the proposed rule makes no effort to protect incumbent, site-based operations from interference from *adjacent-channel* operations by geographic-area-based licensees. The rules address only co-channel interference. In the operating experience of the PSEG Companies, interference from adjacent-channel operations can be just as problematic as interference from co-channel operations. For example, PSEG's current ten-site, twenty-channel 900 MHz trunked radio system has experienced severe interference from nearby CMRS systems operating on adjacent channels within the 900 MHz band. To this day, the utility operations of the PSEG Companies are impaired by adjacent-channel interference originating from a commercial mobile radio service installation mounted on a water tower approximately one-half mile from PSE&G's West Deptford Township site. When this interference affects the site's control channel, the site becomes entirely ineffectual for crews operating within its designed coverage area.

Without a rule addressing the obligation of adjacent-channel geographic-area-based licensees to protect incumbent, site-based licensees, there will be no effective mechanism for resolving such conflicts, which are sure to arise. The PSEG Companies thus recommend adding text to the rule to require prior notice by geographic-area-based licensees to incumbent, site-

based licensees no less stringent than those imposed in the Commission's rules affecting the rebanding of the 800 MHz spectrum.⁹ Any new rules also should impose an obligation upon geographic-area-based licensees to perform an engineering evaluation and potential interference analysis prior to construction of the station.

2. § 90.669 Emission limits.

This proposed rule limits out-of-band emissions by requiring attenuation of the geographic-area-based licensee's transmitter power with respect to any frequency in the geographic-area-based licensee's spectrum block that is "adjacent to" channels used by incumbent, site-based licensees. Despite the use of the words "adjacent to," it appears that the rule is referring to co-channel operations. Whether or not this is the case, the rule should be clarified to state a power attenuation requirement, encompassing both co-channel as well as adjacent-channel operations.

Furthermore, the Commission must clarify the proposed rule to include explicitly a transmitter power attenuation requirement with respect to incumbent, site-based licensees. Subpart (a) of the rule appears to be an introduction to the emission limitations and an affirmative statement that the requirements apply to interior channels of a geographic-area-based licensee's channel block that are used by incumbent, site-based licensees.

⁹ See, *In the Matter of Improving Public Safety Communications in the 800 MHz Band*, WT Docket No. 02-55, *et al.*, Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order (Released August 6, 2004).

The rule could be read to mean that the “outer” channels of a geographic-area-based licensee’s channel block are exempt from obligations with respect to channels used by an incumbent, site-based licensee. This, of course, is nonsensical, and the PSEG Companies urge the Commission to clarify that the obligation with respect to an incumbent, site-based licensee’s channels applies to both interior and outer channels in the geographic-area-based licensee’s spectrum block.

Moreover, subpart (b) of the rule, which states the actual power attenuation requirement, does not explicitly refer to incumbent, site-based licensees. Instead, it refers to “another licensee.” Because subpart (a) refers to “incumbent licensees,” a possible construction of subpart (b) is that “another licensee” refers to another, geographic-area-based licensee and not to an incumbent, site-based licensee. PSEG urges the Commission to clarify and explicitly state that the power attenuation requirement applies to frequencies—interior and outer—used by incumbent, site-based licensees.

III. SUMMARY AND CONCLUSION

For the foregoing reasons, the PSEG Companies oppose the proposed attempt to expand commercial operations in the 900 MHz band at the expense of existing licensees, many of which are critical infrastructure licensees that perform vital public functions. If the Commission ultimately adopts a final rule, however, the rule should continue to permit incumbent licensees to continue their operations in this band. Moreover, buy-outs may not remedy these concerns in the 900 MHz band, and the Commission's final rule should not assume that all site-based incumbents will negotiate relocation agreements with the auction winners. At a minimum, therefore, the final rule also should strengthen protections for incumbent, site-based licensees as described above—or the Commission effectively will rescind its decision to permit incumbent licensees to operate in the 900 MHz band and thereby create yet another major interference controversy.

Respectfully submitted,

Company

Public Service Electric and Gas

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